TASKBOX 7

SEEDS

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Acknowledgment

To those who made this possible

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Finally i would like to acknowledge myself for this project despite the challenges of an overwhelming schedule. I would also like to thank my batch mates for contributing their research at the initial stages of the project.

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SEEDS in Action

UNDERSTANDING THE PROJECT:

CLIENT BRIEF:

To propose a habitat solution for at risk communities, rooted strongly in the local context that help resilience towards climate.

UNDERSTANDING THE BRIEF:

Understanding local lifestyle of communities and problems that arise because of disasters leaving effects both temporary, in context to local lifestyle of communities and the problems that arise because of these disasters leaving effects in the patters of daily life. Such problems can be tackled via proposing practical solutions for restoration and mitigation.

VISION:

Transforming vulnerable intro resilient and thriving communities.

Home - SEEDS. (n.d.). https://www.seedsindia.org/

SEEDS in Action

CORE PRINCIPLES OF SEEDS:

READINESS:

The state of being fully prepared for something. According to Oxford Languages and Google - English | Oxford Languages. (2024, January 16).

as a core value of SEEDS India it is stated that preparedness is crucial during natural disasters like predicting the scale and intensity of disasters.

RESPONSE:

A reaction to something. According to Oxford Languages and Google - English | Oxford Languages. (2024, January 16).

a definition that justifies the working of seeds in action , if and when disasters strikes seeds actively work with rescue operations to save as amny lives as possible.

REHABILITATION:

the action of restoring someone to former privileges or reputation after a period of disfavor. According to Oxford Languages and Google - English | Oxford Languages. (2024, January 16). restoration and rebuilding of damaged spaces and communities. so SEEDS is working before , during and after the event of disasters as an occurrence.

WHAT WE CALL AS "NATURAL" DISASTERS:

why do we call phenomenons that occur naturally as "natural disasters" calling things natural seem like the devastation is inevitable and out of our control. This is false, as science and technology has advanced to a point that these disasters should not cause loss of life or damage of property .

"A Terrible act of god? I don't agree"

according to Sarah Tuneberg | TEDx Talks. (2019, July 26). We know how to save lives in disasters - why don't we?

the idea is that there will always be natural phenomenas but weather it will turn out to be a disaster is entirely our accountability as designers.

STUDYING DISASTERS:

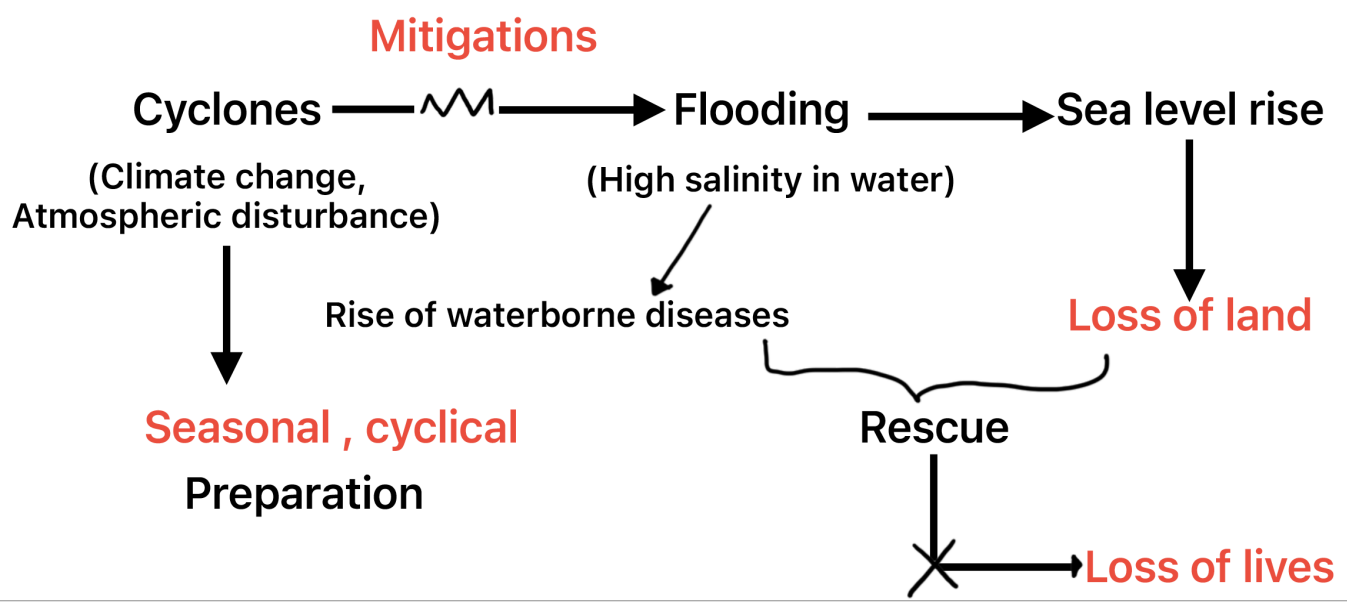
There are many types of disasters that do occur without direct human initiation. These include tsunamis, hurricanes, earthquakes, tornadoes, wildfires, volcanic eruptions, blizzards, hailstorms, and floods and their accompanying events.

CYCLONES:

Cyclones are destructive air circulation due to low pressure areas.

A cyclone is a giant, circular, swirling storm that conducts extremely high wind speeds of 74 miles per hour or greater. They occur commonly in coastal areas that are within close proximity to oceans, where hurricanes originate. Cyclones bring in large amounts of rainfall with high wind speeds

ESTIMATING A TIMELINE OF CYCLONE:



in the timeline we can actually understand and note the points of intervention which seeds can do at times of disaster (here cyclone) that will ultimately prevent loss of lives and property.

SEEDS in Action

Admin, & Admin. (2023, March 23). Sundarban

The Sunderbans Delta

SEEDS in Action

Zero Carbon Analytics. (2022, November 8)

underban National Park & Tiger Reserve India | Tourism Guide.

COMMUNITY and GEOGRAPHY:

the sunderbans delta have over 102 islands deltaic islands out of which 52 are inhabited and the rest are inhabited and the rest are mangrove forests.

sundarbans are densely packed jungle ares and the only way of travel through the forests are by the canal waterways and narrow streams.

"...social relations in the Sundarbans are perceived along the lines of whether one's livelihood depends on the forest and rivers or on agricultural land."

— Forest of Tigers, page 30.

According to Occupations — Life in the Sundarbans mangrove forest. (n.d.).

Lifestyle and living standards:

Income in the Sundarbans generally comes from one of three categories of occupation: forest workers, prawn seed collectors, and landowners. The geographical locations of these three categories directly relates to the geographical-social hierarchy of the Sundarbans islands, with forest workers at the bottom, landowners at the top, and prawn seed collectors finding middle ground between the two.

SEEDS in Action

Indian Sundarban is highly susceptible to tropical cyclones and resultant impacts such as storm surge-induced floods, embankment breaching, and saline water intrusion. It affects life and livelihood in severe ways. Mitigation and policy measures are therefore very important, based on information gathered at the grassroots level.

At times of evacuation:

Cyclones in sunderbans are cyclical. The government of west Bengal follow a rigid structure to provide aid for the people by providing a shelter for people at a specified location that wold be elevated and safe from the effects of the cyclone.

Coastal low-lying villages are often hardest hit by tropical cyclones. Therefore, effective mitigation strategies and coping mechanisms are essentially needed to reduce the adverse impacts of cyclones.

A JOURNEY TO SAGAR ISLANDS:

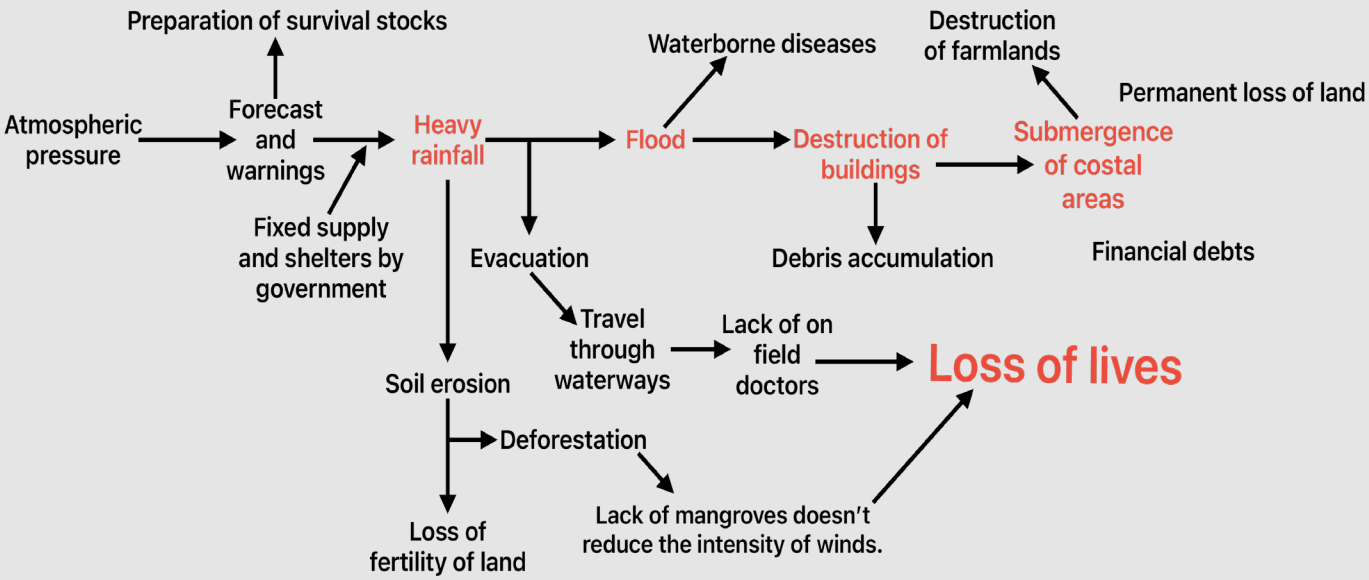
during evacuation every year people at sundebans have to travel a treacherous distance of 113 km by waterways to reach the government provided shelter during the times of cyclones.

sagar island is located to the west of sunderbans delta islands, when a cyclone is about to hit the sunderbans the government of west bengal takes its preventive measues by sending police and scouts to announce the people of the estimated danger zone to evacuate as soon as possible.

people have to travel to a specified shelter all on their own , without any monitoring or help from the government during the time of evacuation.

even if rescue boats and government agents wanted to guide the masses at times of evacuation this becomes especially difficult due to narrow canals and intensively complex waterways which prevents largerboats to reach every parts

SEEDS in Action



During this time of evacuation, people face major issue in times of a lack of proper medical care as there is a lack of on-field doctors for immediate medical assistance.
This is mainly due to the fact that doctors during these times are sent by the government are from mainland kolkata.

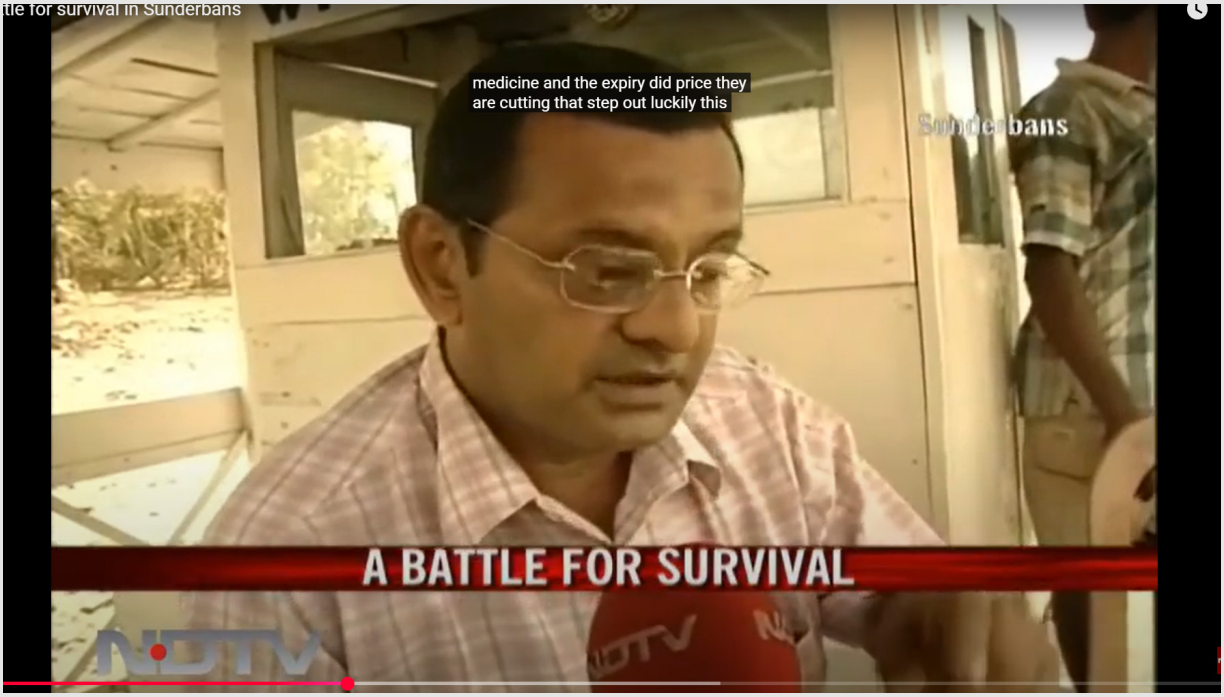
NDTV. (2009, June 22). A battle for survival in Sunderbans [Video].

from this we can clearly understand that thre is a huge gap in the system. The government is trying to reach out to the masses as much as possible but is quickly exhausted as the doctors are unable to connect with the patients who really need intensive care or are affected with ailments that need constant monitoring.

Therefore we can conclude where exactly lies the problem that:

The problem lies no in the availability , but the accessibility of doctors

SEEDS in Action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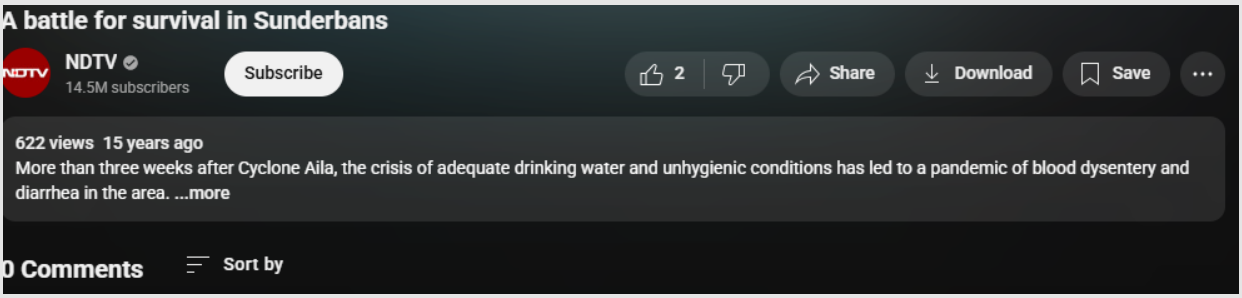
medicine and the expiry did price they
are cutting that step out luckily this
A BATTLE FOR SURVIVAL
NDTV


A battle for survival in Sunderbans
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More than three weeks after Cyclone Aila, the crisis of adequate drinking water and unhygienic conditions has led to a pandemic of blood dysentery and diarrhea in the area. ...more
0 Comments
Sort by

Due to lack of medical professionals, there is a rise of quack doctors as it is the only option people are left with if they want any treatment during this time.

"Perhaps if we had the option of travelling by road to reach the hospital on the mainland instead of by river, we could have made it in time to save his life," says his son, a 40-year-old trader.

According to Mitra, D., & Mitra, D. (2024, October 20). People of the Delta and climate change. The Statesman.

THE SHIS FOUNDATION

Clinics at the door steps:

Southern Health Improvement Samity is a registered voluntary social welfare organization for social action and economic development in an integrated manner. Spearheaded by Ms. Sabitri Pal and Mr. M. A. Wohab, SHIS has been offering yeomen's service to better the lot of the socially and economically weaker sections of the people of an unserved and underserved unreached areas of West Bengal. SHIS - NGO Voluntary Organization working in West Bengal. (n.d.).
They aims to provide essential health care services in areas though boat clinics etc.

major problems with this type of boat system:

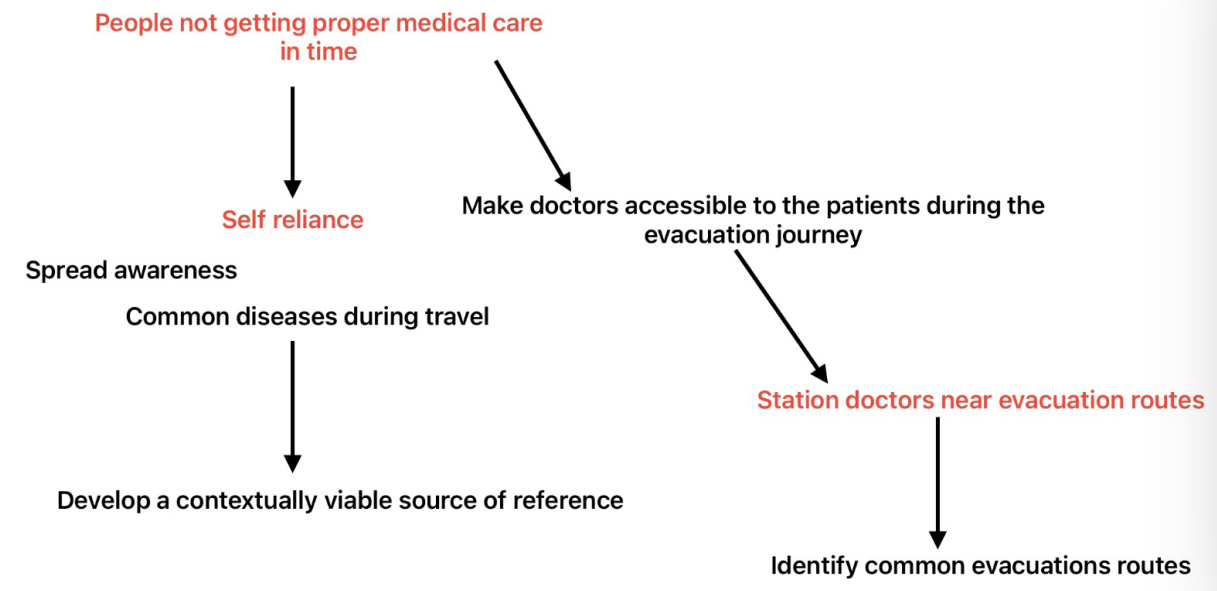
If we study the list of reasons why this type of medical help is still under-whelming in comparison to the aid the patients need especially in times in times of long journeys during evacuation is mainly a factor of :

> the boat though being mobile is not being able to reach everyone when they have a need for a medic.

> lack of resources and timely need for equipments in case of near fatal diseases. connection with mainland and other hospitals is also lacking.

SEEDS in Action

Direction :


People not getting proper medical care in time
Self reliance
Spread awareness
Common diseases during travel
Develop a contextually viable source of reference
Make doctors accessible to the patients during the evacuation journey
Station doctors near evacuation routes
Identify common evacuations routes

Right now if we analyze or problems we can get a non linear design direction in wich the design process can move forward.

Self sustaining is being adaptable = mitigation

Lets understand this via an example as if we get a disease again and again , at fist we seek doctors and gain remedies, at the second and third time we do the same but when it happens at a certain no of times we no longer depend on seeking a doctor but taking the medicine itself.

This is adaptation

And what results in mitigation

So if we can gewt a common disease chart that specifies the recurring diseases that happen during out time of evacuation we can provide a contextually viable solution to the specific problems.

Approach:

DIVISION OF COMMON DISEASES:

By identifying and listing the common diseases that can or will happen during our time of evacuation we have also categorized it into levels of that can be fatal to a person.

Level 1	Level 2	Level 3
Common cold	Snake bites	respiratory infection
Headache	Malaria	Women in pregnancy
Cuts and bruises	Hepatitis A	Need for ICU
Cholera	Influenza	
Rashes	Pneumonia	
Diarrhoea	Typhoid	
allergies	Dengue	

According to DR. S, Karmakar (M.B.B.S), Burdawan Medical Collage and Hospital, practiced medicine at sundarbans for 2 years on 2016 and consecutive.

Points that need to be noted:

> level 1 are the diseases that can be treated properly without a medical guidance of any sort .

> level 2 are the diseases that can be treated and is not generally fatal of sorts if you visit a professional once.

> level 3 are conditions where you need constant monitoring of a patient at all times.

LEVEL 1

IDEA:

Providing people with contextually viable medical kit that will contain all the essential items for being self reliant over diseases or ailments at level 1.

The list of items tat will be contained in the box are as follows.

Chlorine tablets	Medical gloves
Disposable masks	Thermal blankets
disinfectant	Mini stove
(ORS) oral rehydration solution	Aspirin \ ibuprofen
scissors and safety pins	Wrapping bandages
disease identification charts	

FEATURES:

> if we note at the items we get in the box we can clearly see that masks and gloves and even thermal blankets are provided for handling patients with contegious diseases like flu.

SEEDS in Action

> Thermal blankets are provided for people to stay warm which is specially necessary during teavel by water to avoid getting cold.

> chlorine tablets and mini stove is provided to purify water to some extent makeing it drinkable.

> the mini stove also help in providing preparations for liquid based meals during diarrhea or other diseases which require low functioning pressure on stomach

> ors is provided to aviod dehydration and other tools like scissors , bandages, medicine for headaches etc are for small scale injury use.

> we also get disease identification chart which will provide simptoms and temporary sollution for people with a level 2 or above diseases and condition, this is aimed at educating and giving the masses some control over the condition and not rely on what ever the doctor says.

SCALE :

calculating the total volume required based on the avg assumptions and also the amount of products in the box.

the average dimensions of a rectangular box is generally :
=>20cm x 15cm x 6 cm
=>2250cm2

the average dimensions of a small rectangle box is generally :
=>20cm x 18cm x 6 cm
=>2160cm2

Space required calculations as volume cm square.

Items	Size(cm)	Est. volume
Chlorine tablets	4x4x5	80
Medical gloves (folded)	10x6x2	120
Aspirin	17x10x1	170
Face masks (folded)	17x10x2	340
ors	4x4x5	80
Scissors	14x6x1.5	126
Thermal blankets	12x8x2	192
Disinfectant	4x4x10	160
Bandages	8x5x3	120
Mini stove	10x10x4	400
		1678 cm2

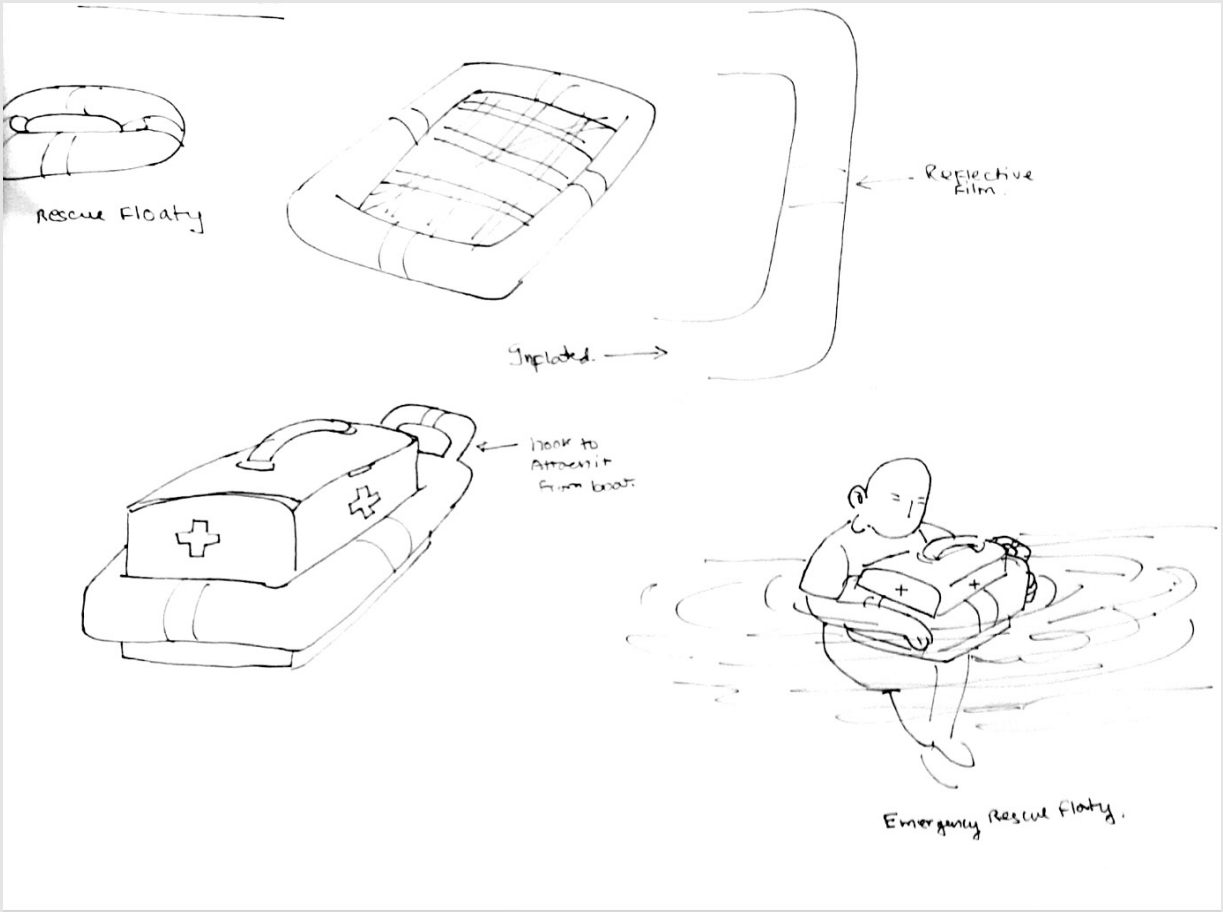
Total volume with 30 percent margin for packageing and acess
=>1678 x 1.3
=>2181 cm2

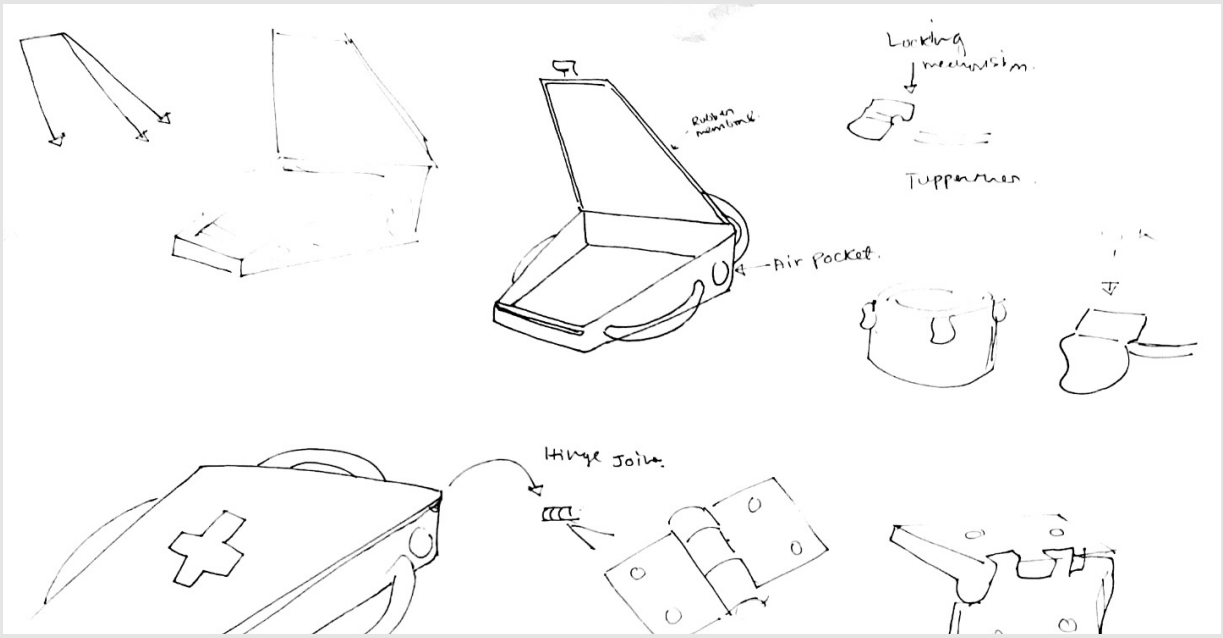
Keeping the design shape in mind the Base length must be 25cm
Height 10 - 12 cm (back)
Height 3 - 4 cm (front)
Width 15cm

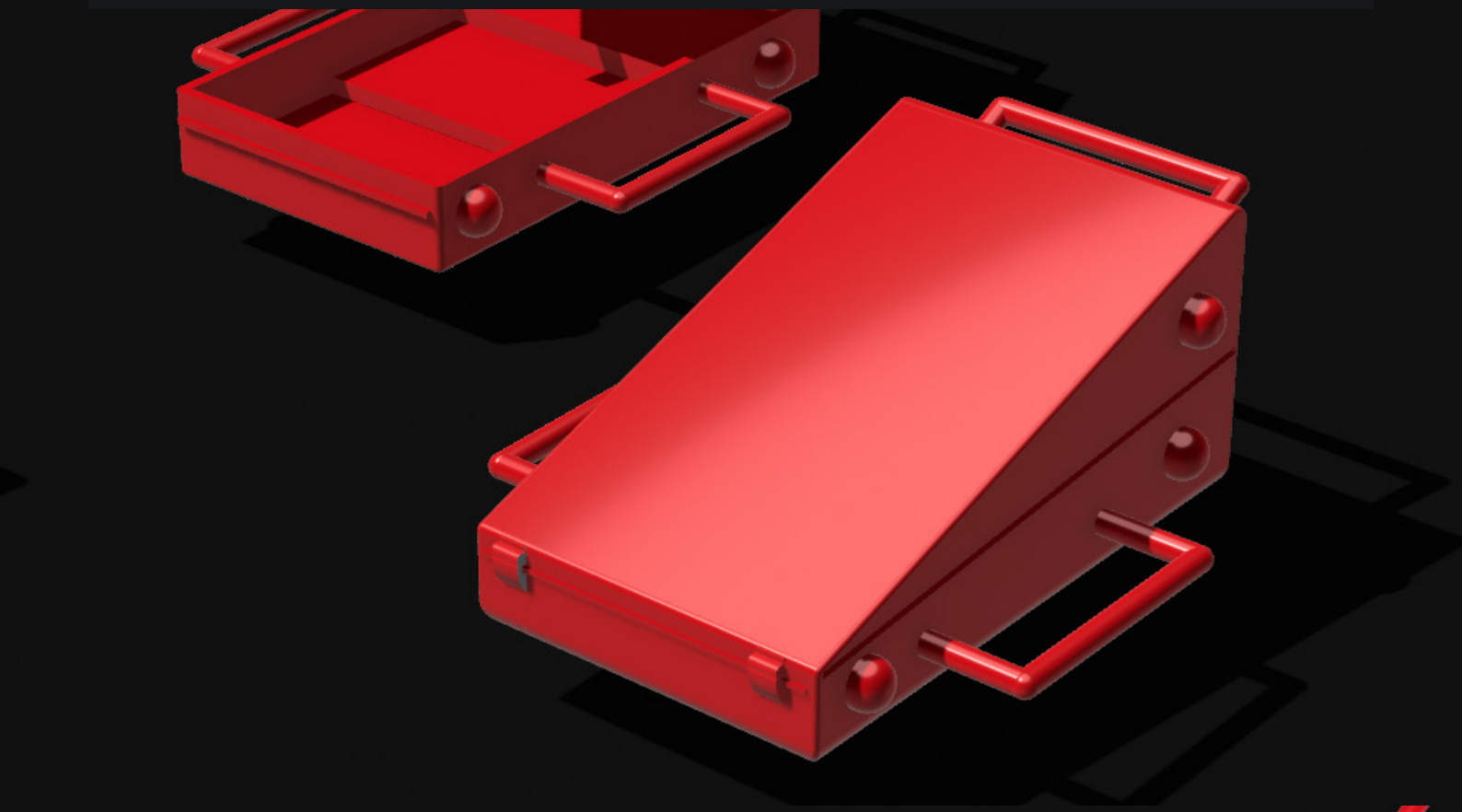
SEEDS in Action

SKETCHES:

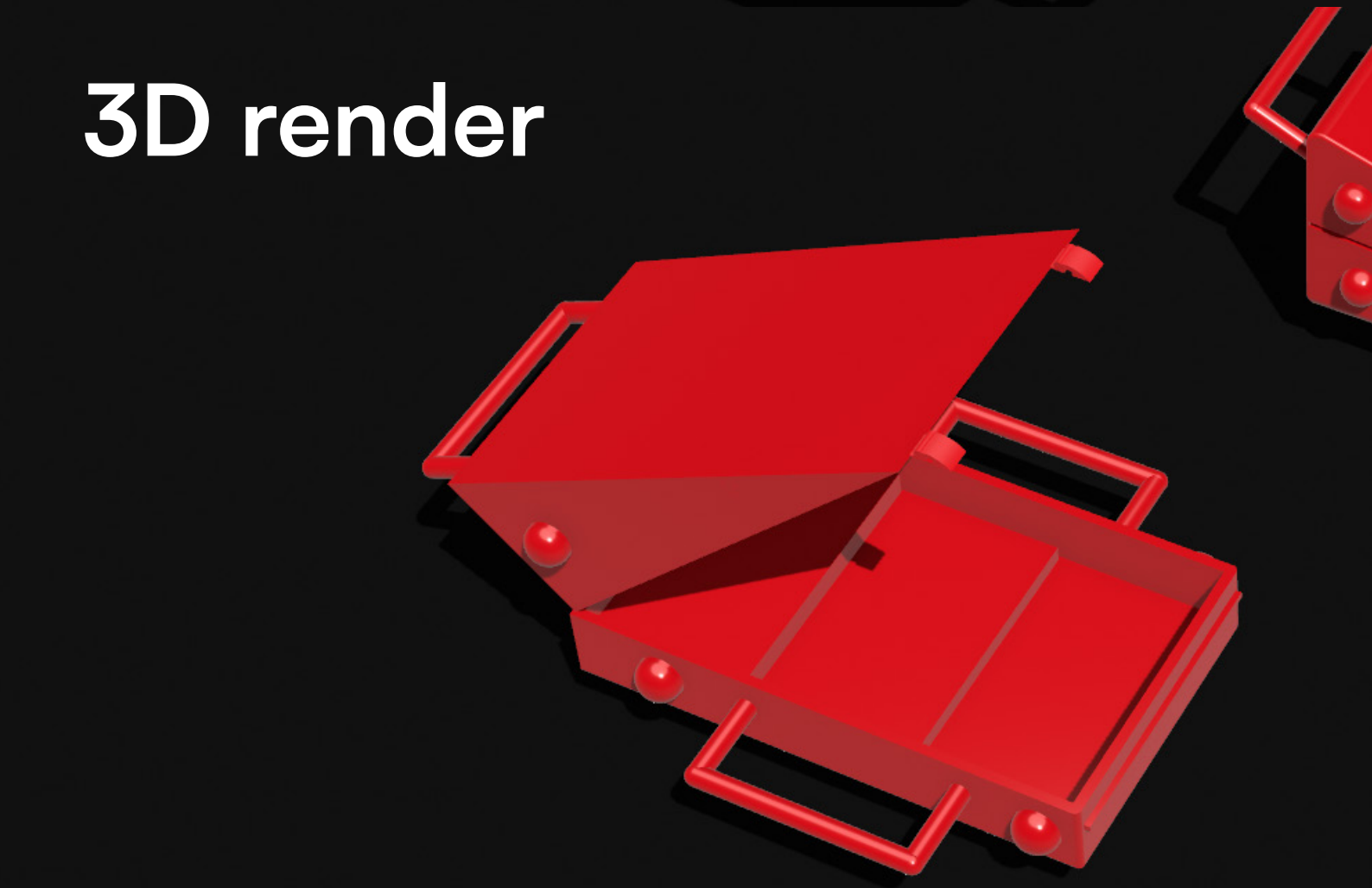
the idea was that what if the box of the first aid can also be a life saving equipment?. Hence this idea of combining a flotie and a box came.



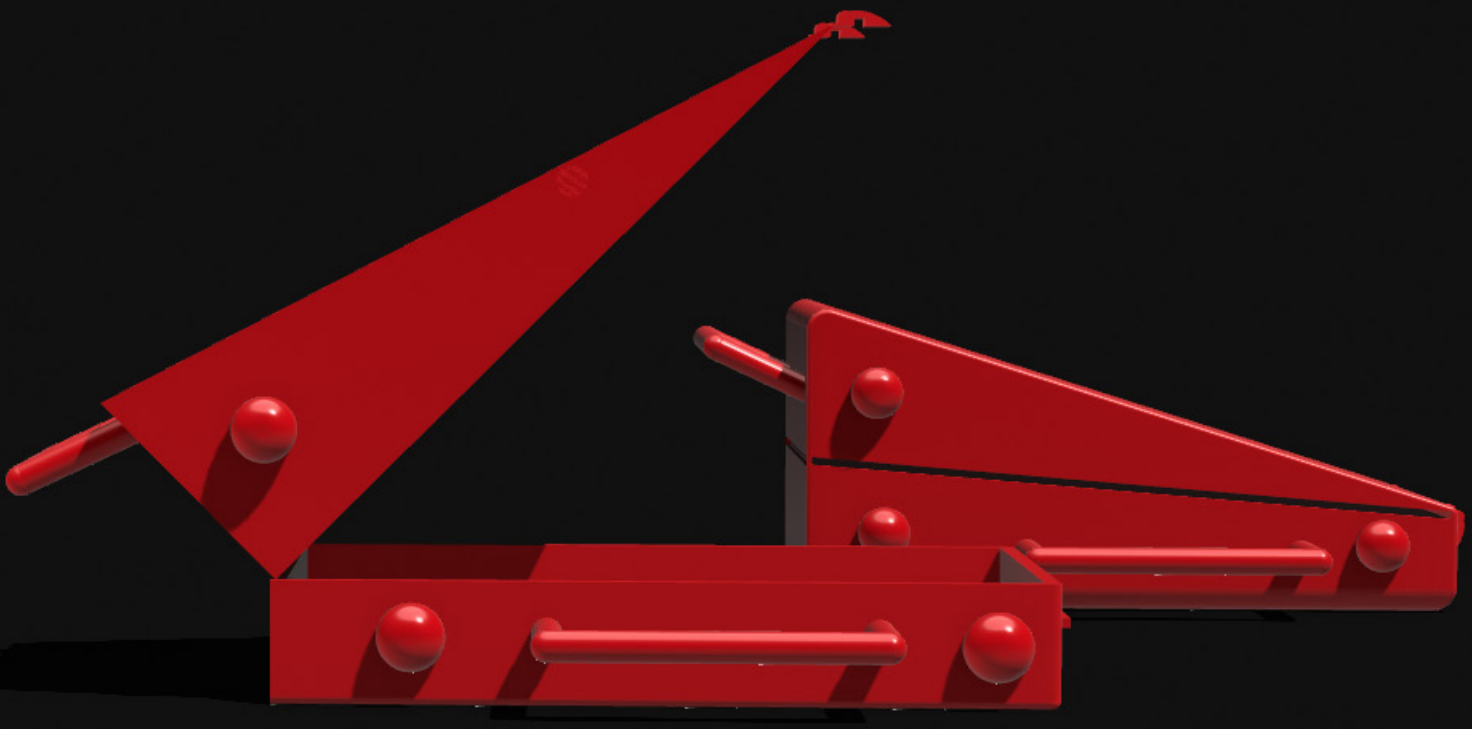


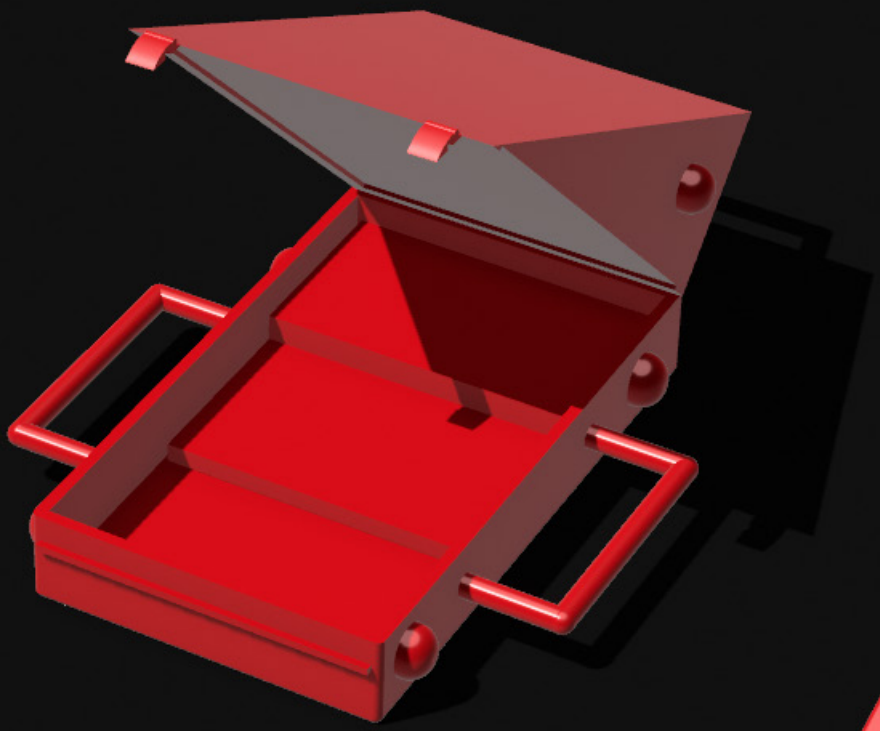


3D render



SEEDS in Action





LEVEL 2 + LEVEL 3

IDEA:

Providing people with temporary medical camps that are for the people who need to visit doctors once or need constant medical attention.

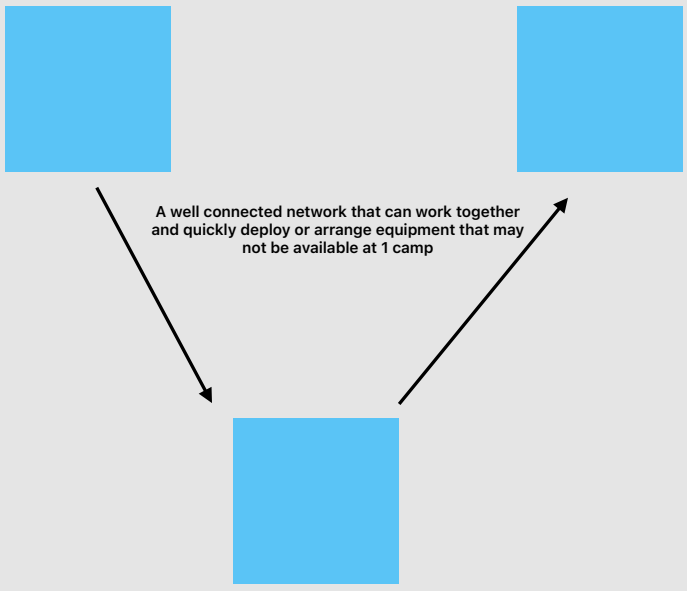
SCALE OF OPERATIONS:

the estimate no of people that will be evacuating will be around 500000 people among a population of 4.5 million people with 22,64,133 male and 21,62,126 female. About Sundarbans. (n.d.). WWF India

estimateing the birth rate of sundar bans to be 4.1 per 1000 inhabitants, in 2020. CEICdata.com. (2023, November 14). India Vital Statistics: Birth Rate: per 1000 Population: West Bengal.

with these we can sucess fully calculate the no of beds required for those specific times. assume ing the rate of fatal diseases and women in labor. we can estimate the we need 5 beds per 1 km apart considering the scale of journey stretching over 113km.

the operational activities of the camp will be for 3 weeks before the due date of cyclones that is to hit the land.


A well connected network that can work together and quickly deploy or arrange equipment that may not be available at 1 camp

Temporary medical shelters during evacuations:

So the total no of equipments needed are:

Items	Number	Volume	total
Medical beds (with clearance)	5	6.5m2	32.5m2
Oxygen cylinders (stored upright)	15	2.5 - 3 m2	3 m2
Infant radiant warmers(with Clarence)	3	2.5 - 3m2	7.5m2
Stretchers(opera-tional space)	2	2.5m2	6m2
Medical table +sink (space for operation)	1	1.5m x 0.75m	1.2 m2
		Total	51.75m2
Circular extra (15%)	8m2		
		Area	60m2

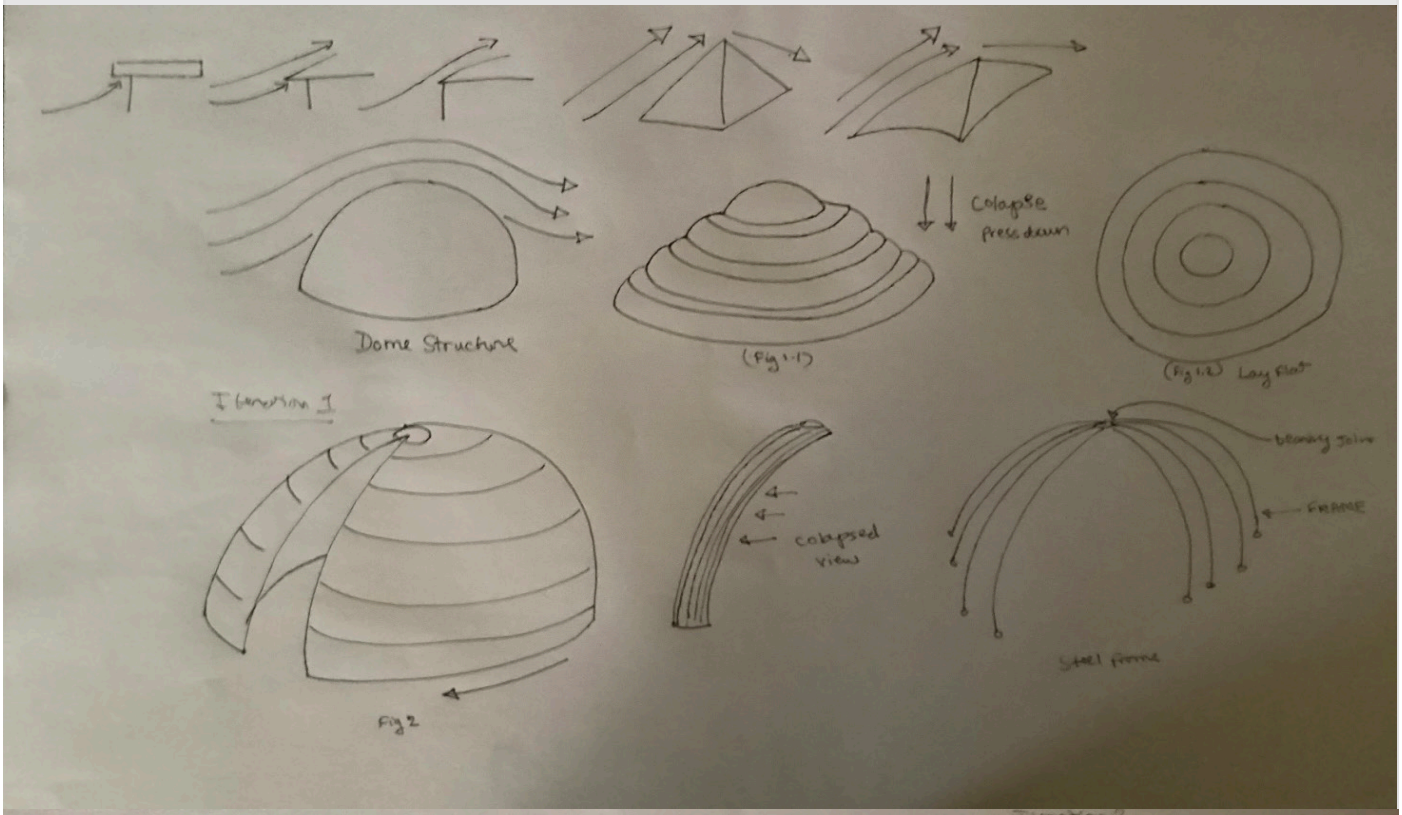
once we have the area of the space we can create a circle by the formulae pie r2 where r will be the radius of the circle.

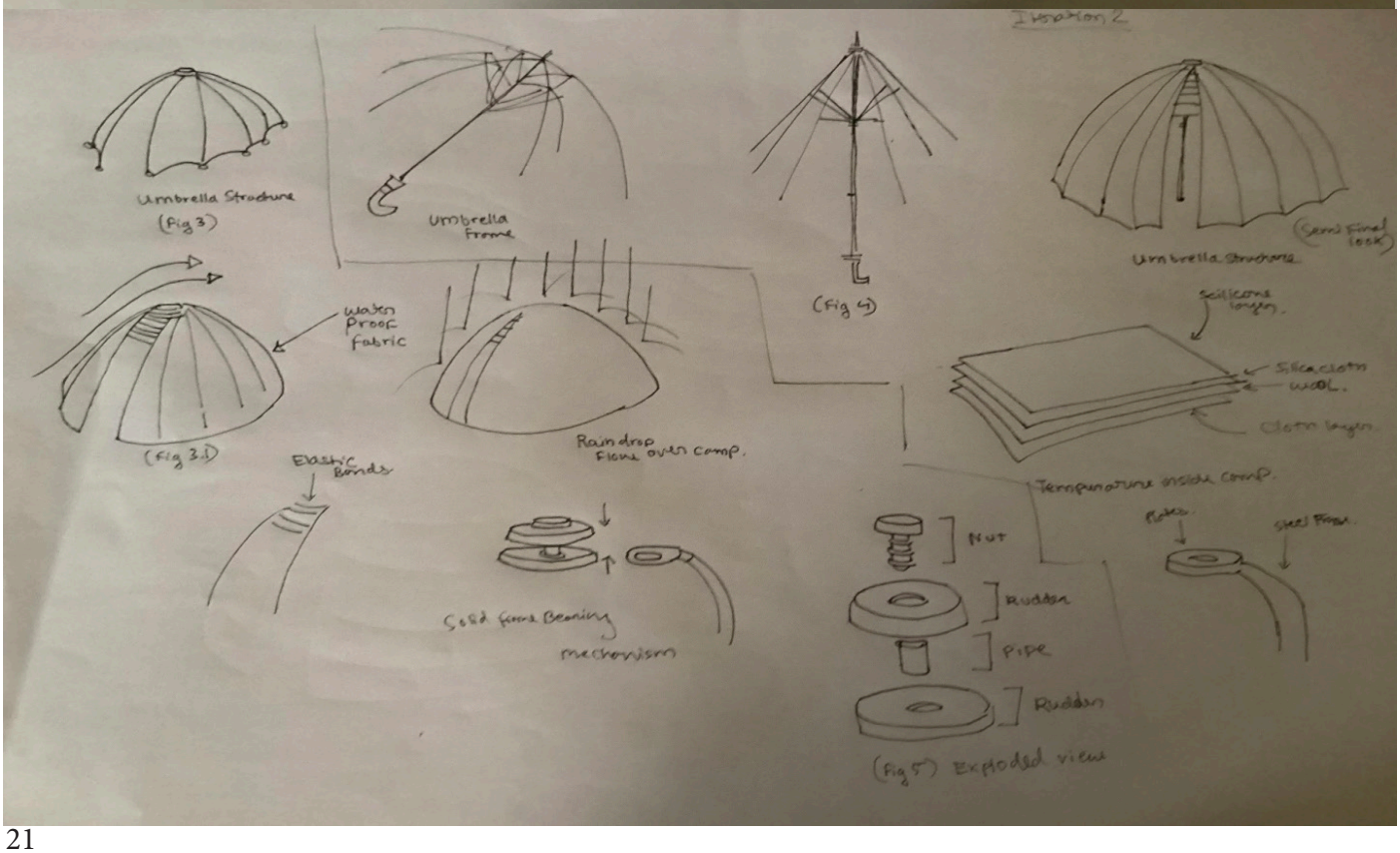
=>4.37
diameter of the circle will be 2r => 2 x 4.37. =>8.74

SEEDS in Action

SKETCHES:

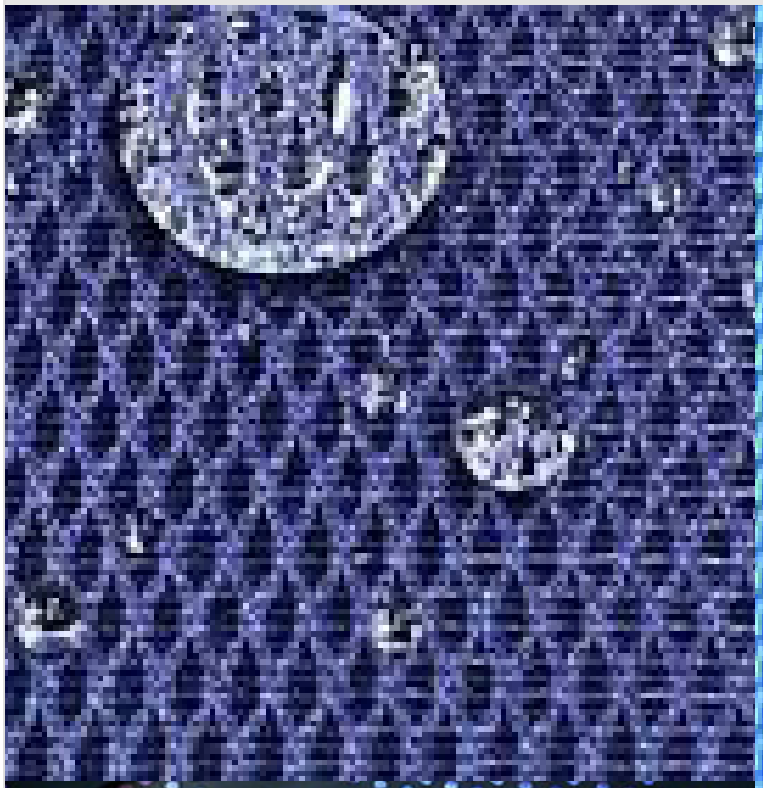
the idea was to make the tent colsapse able so that it can be transported.
the shape and idea was inspired by mushroom head.

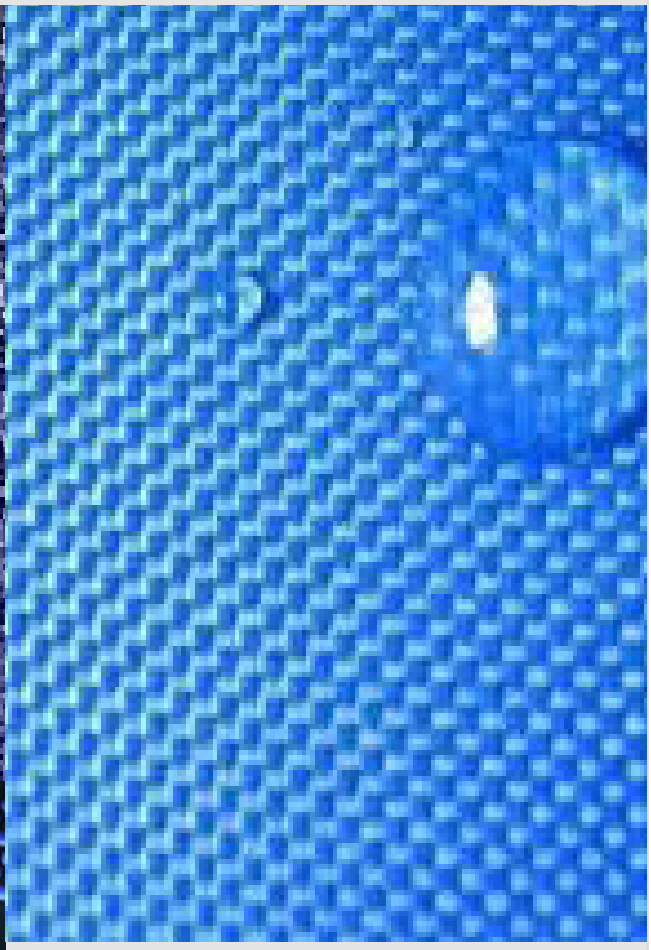


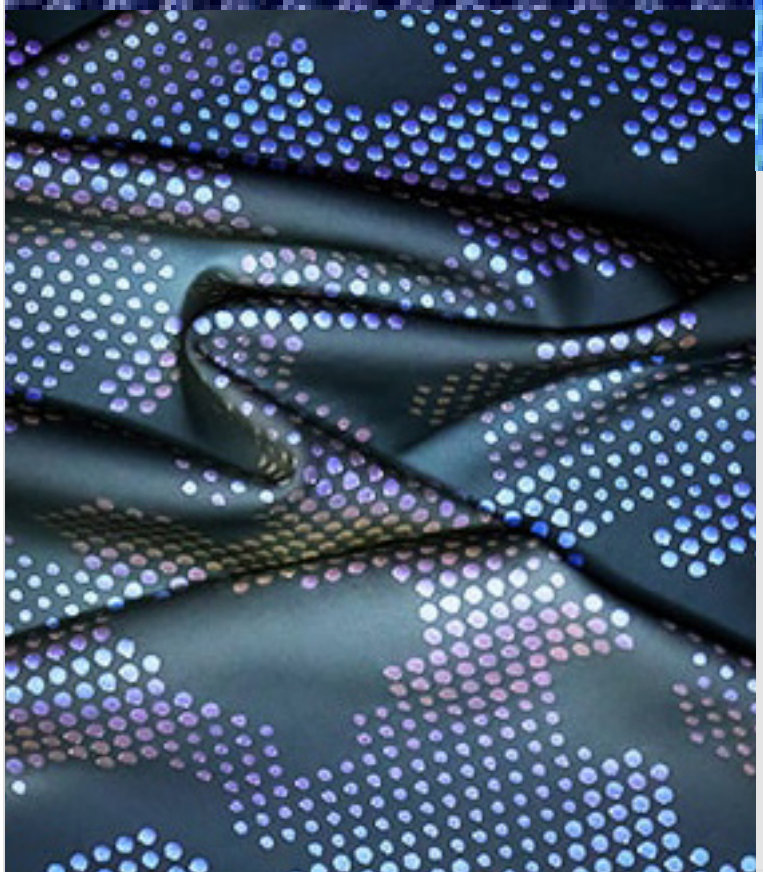


SEEDS in Action

Fabric exploration of the tent body of polyesters and waterproof mesh for ventilation







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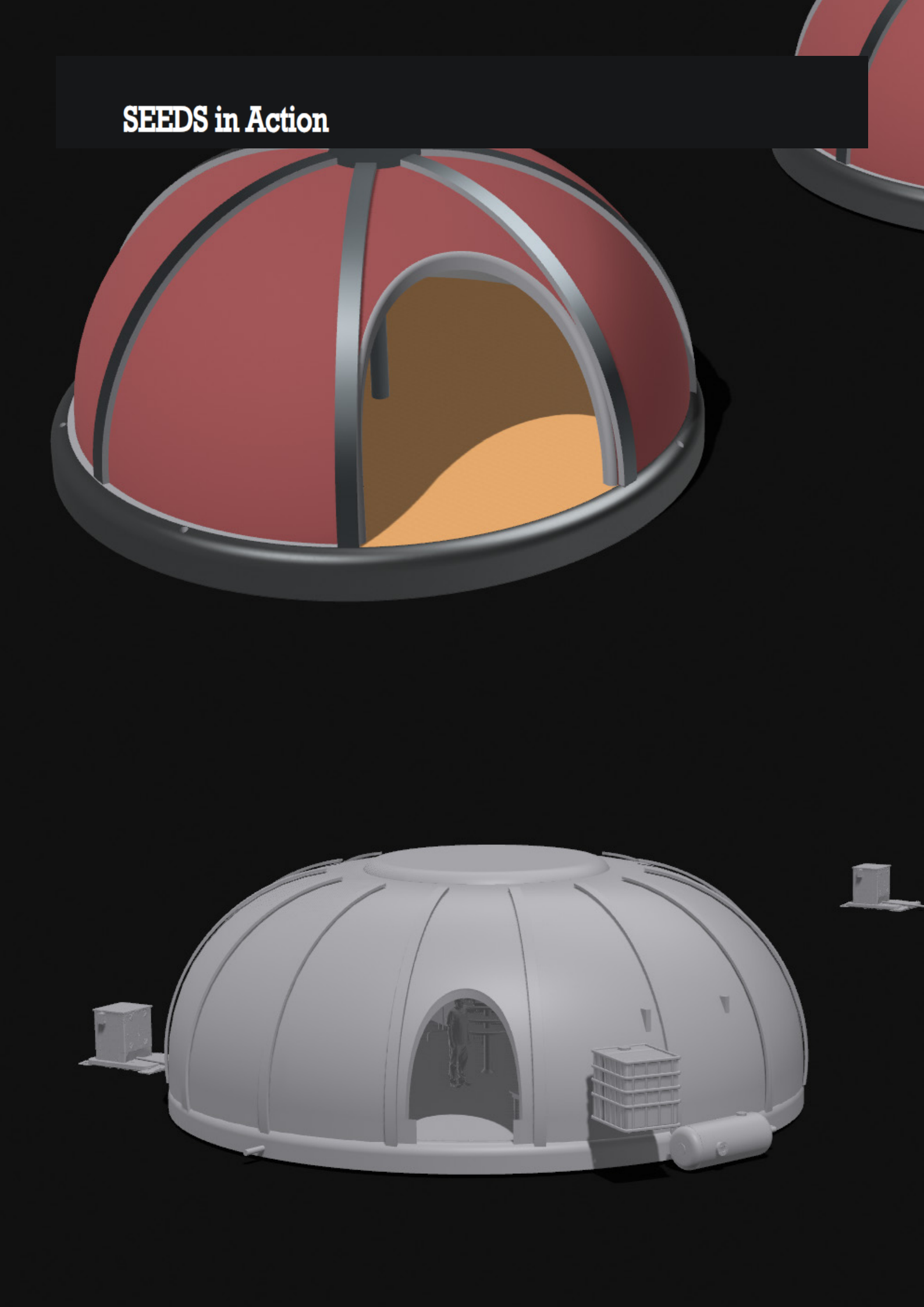

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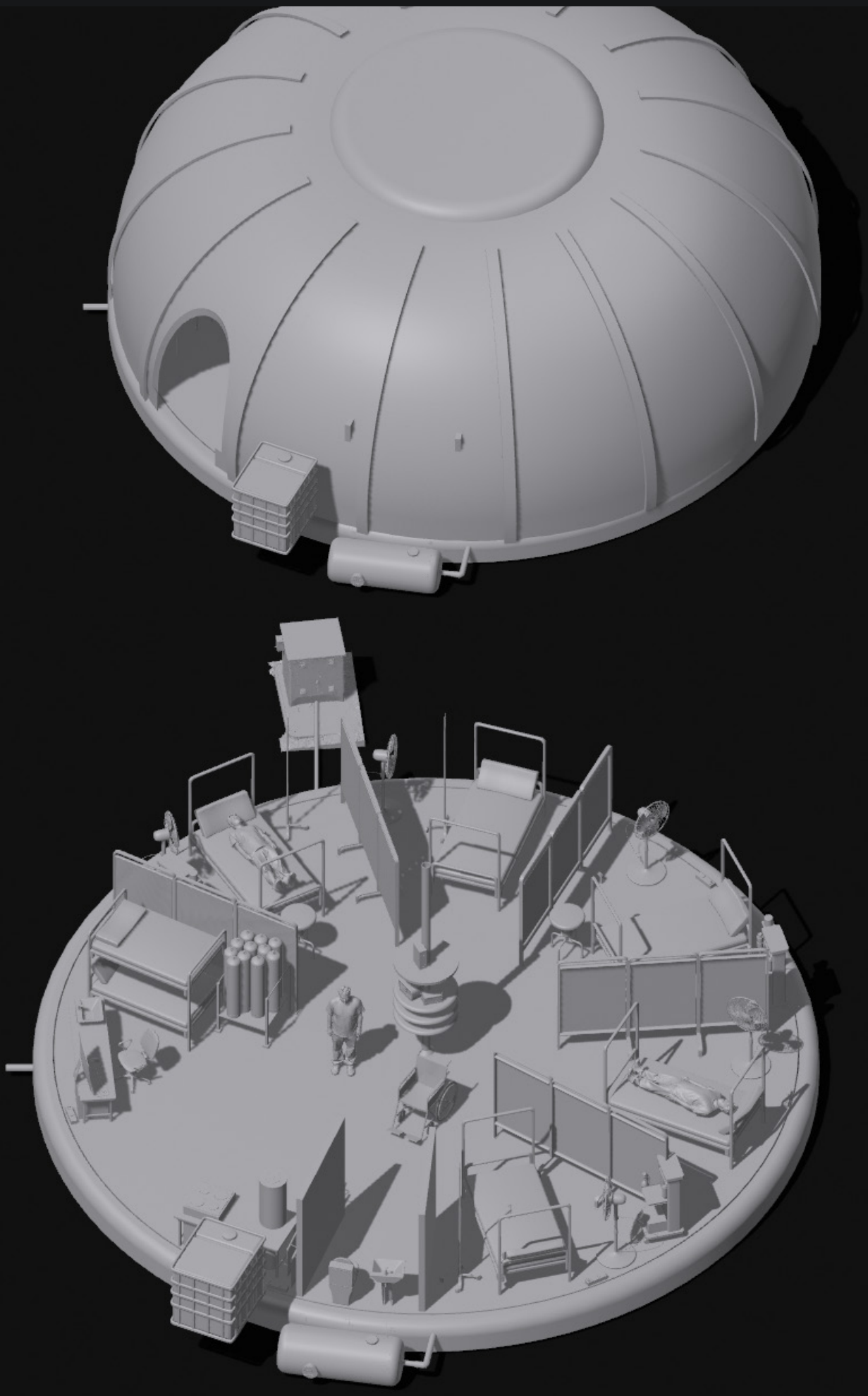

REFLECTION ND LEARNINGS

Throughout the project, I came across several interesting concepts,. while these ideas persist on letting me create a tunnel vision for the core and basic practicality of the idea that is also contextually viable to some extent.
I feel there were many opportunities for deeper exploration that I could not fully embrace.

in examining my strategy from the perspective of the people it is meant to fully divide your ailments into various levels and treat your conditions accordingly.
it is entiely in medical aspect however I did not embrace it fully haveing also practicality involved into it.

moving forward , and with the opportunity to continue with this project , i aim to understand and refine these missed opportunities.

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